

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

Petition of the Wisconsin Department of Transportation for the Improvement and Exemption of a Public Crossing of the Wisconsin Central Ltd. Tracks with Shawano Street (CTH 'D') in the City of New London, Waupaca County

9164-RX-616

FINAL DECISION

By letter dated October 12, 2005, the Wisconsin Department of Transportation (DOT) filed a petition with the Office of the Commissioner of Railroads (OCR) under §§195.28, 195.285, and 195.29, Stats., for the improvement of a public crossing of the Wisconsin Central Ltd. (WCL) tracks with Shawano Street (CTH 'D') in the City of New London, Waupaca County (crossing no. 281 556R / MP 39.22).

DOT also petitioned for the exemption of vehicles specified in §346.45, Stats., from the requirement to stop at the crossing. That section requires certain specified vehicles, such as fuel trucks and school buses, to stop at highway/rail crossings unless posted with an exempt sign.

Pursuant to due notice, public hearing was held in this matter on January 12, 2006 in New London, Wisconsin with hearing examiner Douglas S. Wood presiding.

On February 2, 2006, the hearing examiner issued a proposed decision. On February 8, the DOT submitted comments.

The DOT concurs with the proposed decision with one objection. The proposed decision found that removing the cantilever arms "would be an unnecessary expense" and ordered the installation of LED lamps on the cantilevered arms. Based on estimates from the WCL, it will actually be less expensive to remove the cantilever arms than to install LED lamps on them. Further, it may be most cost-effective to reuse some of the existing signal masts and use some new masts.

The Commissioner orders that the cantilever arms be removed and that the crossing have mast-mounted 12" LED signals for warning devices. These signals may be new, used, or some of each as is determined by DOT in consultation with the WCL. With this change, the Commissioner adopts the proposed decision as final.

Appearances:

**Parties**

Wisconsin Department of Transportation, Petitioner  
by  
Mark Morrison, PE  
Grade Crossing Safety Engineer  
PO Box 7914  
Madison, WI 53707-7914

In Support:

Waupaca County  
by  
Dean Steingraber  
County Highway Commissioner  
515 E. Fulton Street  
Waupaca, WI 54981

City of New London  
by  
Carol Radtke  
Director of Public Works  
215 N. Shawano Street  
New London, WI 54961

New London School District  
by  
Harold Steenbock  
Transportation Supervisor  
901 W. Washington Street  
New London, WI 54961

As Interest May Appear:

Wisconsin Central Ltd.  
by  
Paul E. Sauter  
Assistant Manager Public Works  
1625 Depot Street  
Stevens Point, WI 54481

## Findings of Fact

### THE COMMISSIONER FINDS:

The DOT and Waupaca County propose to reconstruct Shawano Street (CTH 'D') in 2006. The project will extend through the crossing, but will not change the width of the roadway at the crossing. The roadway will be converted to a 3-lane roadway with TWLTL (two-way-left-turn-lane) in the middle.

Shawano Street (CTH 'D') is 48' wide (face-to-face of curbs) with a 10.5'-wide pathway on the east side and a 4.5'-wide sidewalk on the west side. Shawano Street (CTH 'D') intersects the tracks at an angle of 84°. North of the tracks Shawano Street (CTH 'D') is a 4-lane roadway. Immediately south of the track Shawano Street (CTH 'D') is marked as a 2-lane roadway with no parking. Farther south Shawano Street (CTH 'D') is 36' wide between curb faces.

After the project Shawano Street (CTH 'D') will be 44' wide between face of curbs south of the crossing and remain the existing width north of the crossing. South of the crossing the roadway will be converted to a 3-lane roadway with TWLTL (two-way-left-turn-lane) in the middle. A 14'-wide raised median will be constructed on the immediate north and south approaches.

The highway project requires no physical changes in the crossing itself. The crossing has a rubber panel surface that is in good condition. The crossing was installed in 1996. At that time the City paid the incremental cost to have rubber panels installed over a simple timber-plank and asphalt surface. The City also paid the cost to detour traffic for seven days, saw cut the existing concrete on the approaches to the crossing, and the asphalt surfacing for the crossing and the immediate approaches. Under state law, the railroad could have been required to pay all those costs except possibly for the asphalt beyond 4' from the rails. The City at that time chose to pay the costs to get the crossing installed, a process which took about 5 years from beginning to end (with one change in railroad from the Green Bay & Western to the Fox Valley & Western Ltd.).

The existing crossing surface is adequate. The railroad may want to install a new crossing while the roadway is closed for construction. The replacement of the crossing would be solely at the cost of the railroad.

Shawano Street (CTH 'D') carried 11,800 ADT (average daily traffic) in 2003. The DOT projects Shawano Street (CTH 'D') will carry 14,200 ADT in the design year of 2026. The speed limit is 25 mph.

The railroad currently operates 8 to 12 train movements per **month** over the Shawano Street (CTH 'D') crossing location at a speed of 25 mph.

A driver traveling at 25 mph needs a distance of 187' to stop safely. The crossing is visible from more than 187' in each direction. Assuming a train speed of 25 mph, a driver traveling at 25 mph needs to see a train when it is 275' from the crossing from a point 187' down the highway. The sight distance available in each quadrant from the safe stopping distance is as follows: 75' in the northwest quadrant, 150' in the northeast quadrant, 120' in the southwest quadrant and 220' in the southeast quadrant. Sight distance is inadequate in all quadrants.

At all crossings, except those with gates, a driver stopped 15' short of the near rail must be able to see far enough down the track, in both directions, to determine if sufficient time exists for moving their vehicle safely across the tracks to a point 15' past the far rail, prior to the arrival of a train. Required clearing sight distance along both directions of the track, from the stopped position of the vehicle, is dependent upon the maximum train speed and the acceleration characteristics of the "design" vehicle. The necessary clearing sight distance at the Shawano Street (CTH 'D') crossing is 605'. The available clearing sight distance is more than 800'.

The exposure factor at this crossing is about 24,000 on days when trains operate. On most days the exposure factor is zero. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

Four train-vehicle accidents have occurred at this crossing since 1973. The accidents occurred in 2004, 1986, 1984, and 1983.

The Wisconsin Department of Transportation has produced a benefit-cost analysis for all at-grade crossings in the state. Installing new automatic flashing lights with gates and constant warning time circuitry at the Shawano Street (CTH 'D') crossing has a net benefit of about - \$110,390. The benefit-cost ratio is about 0.57 meaning that the public will receive \$0.57 in safety benefits for each dollar expended.

The crossing presently has cantilevered 8" automatic flashing lights with DC circuitry for warning devices. These warning devices are adequate, except that LED lamps shall be installed in place of the existing incandescent lamps. The existing warning devices will be adequate until such time as the new warning devices are installed.

The petitioners proposed that the existing automatic flashing lights be replaced with crossbucks based on the purported age of the equipment. The DOT believed that only the circuitry was upgraded in 1971. According to OCR records, an entire new set of signals were installed at that time. While that still makes the existing signals some 35 years old, the signals do appear to be functioning adequately at this time. The addition of LED lamps will improve the safety of the crossing for a minimal expense. DOT proposed that the cantilever arms and signals be removed since they were only needed due to the width of traveled roadway. This proposal is reasonable.

*Light emitting diodes (LED)* lamps replace incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

**Source of funding:** The highway project shall pay all costs.

### **Exemption From the Stopping Requirement**

The County proposes that this crossing be exempted from the stopping requirement of §346.45 Wis. Stats. That section requires certain specified vehicles, such as passenger buses and fuel trucks, to stop at all railroad crossings unless posted with an exempt sign.

Testimony from the school district indicated that about 40 school buses use the crossing each day. Shawano Street (CTH 'D') traffic consists of about 6% truck traffic and undoubtedly a substantial number of these trucks are required to stop at non-exempt crossings. Typically, about 10% of trucks are required to stop, which would be about 71 per day for the Shawano Street (CTH 'D') crossing.

Without automatic flashing lights the corner sight distance is inadequate and the crossing could not be safely exempted even though trains are infrequent because a driver of a school bus or fuel truck approaching the crossing could not see far enough down the tracks from the safe stopping distance to determine whether it was safe to proceed. Since the automatic flashing lights are remaining, exempting the crossing from the stopping requirement of §346.45, Stats., will promote the public interest, particularly in light of public safety.

With the new roadway configuration at the crossing, traffic congestion would increase dramatically if school buses and fuel trucks continued to stop at the crossing.

Train traffic is very limited and the crossing will continue to be protected with automatic flashing lights. The state of Wisconsin has developed a very good safety record with exempt crossings, which should continue as long as exemptions are granted only under appropriate circumstances. Vehicle-vehicle accidents, typically rear-enders, have been reduced by 74% at crossings where exempt status was granted. Conversely, no exempt vehicles have been involved in a train-vehicle accident after a crossing was granted exempt status.

The order requires the County to install exempt signs [Sign R15-3 in the Manual on Uniform Traffic Control Devices (MUTCD)] on the vertical signal posts on each approach. The order also requires the County to install yellow-background advance warning exempt signs on the advance warning signs on the approaches to the crossing.

#### Ultimate Conclusions on the Issues

##### THE COMMISSIONER CONCLUDES:

1. That in order to adequately protect and promote public safety, it is necessary to install 12" LED lamps.
2. That it would promote the public interest to exempt the crossing of Shawano Street (CTH 'D') with the tracks of the Wisconsin Central Ltd. from the stopping requirement of §346.45, Wis. Stats.

#### Conclusion of Law

##### THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §§195.28, 195.285 and 195.29, Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1. That the **Wisconsin Central Ltd.** shall install and maintain 12" LED automatic flashing lights and other appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with Shawano Street (CTH 'D') at-grade in the City of New London, Waupaca County by **September 30, 2006** (crossing no. 281 556R / MP 39.22). That the **Wisconsin Central Ltd.** shall remove the existing cantilever arms. That the signals may be new, used, or some of each as is determined by the Wisconsin Department of Transportation in consultation with the Wisconsin Central Ltd.

2. That the **Wisconsin Central Ltd.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

3. That the signal installation work herein ordered shall not begin until the regional office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

4. That to the extent feasible the **Wisconsin Central Ltd.** shall re-use the existing signal equipment.

5. That the **Waupaca County Highway Department** shall install and maintain exempt signs (Sign R15-3 in the MUTCD) on the signal masts on each approach to the crossing of Shawano Street (CTH 'D') with the Wisconsin Central Ltd. tracks in the City of New London, Waupaca County by **June 1, 2006** (crossing no. 281 556R / MP 39.22).

6. The **Waupaca County Highway Department** shall also install and maintain yellow-background advance warning exempt signs (Sign W10-1a in the MUTCD) on the advance warning signs by **June 1, 2006**.

7. That jurisdiction is retained.

Dated at Madison, Wisconsin, (February 27, 2006).

By the Office of the Commissioner of Railroads.

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Rodney W. Kreunen  
Commissioner of Railroads